

Application Serial No. 09/877,768
Amendment dated June 30, 2005
Reply to Office Action of April 18, 2005

Docket No. 1232-4722

Amendment to the Claims:

Claims (25, 28, 30-37, 51-58), (27, 29, 67, 78, 79), (38, 41, 44, 45, 64, 80, 81), (39, 47-50, 82-84), (40, 42, 85-87), (88, 89, 90) and 91-94 are pending in this application. Claim 25, 27, 38, 39, 40, 88, 91 and 93 are independent.

The following claim listing replaces all prior versions and listings of claims in this application.

Claim Listing:

1-24 (CANCELLED):

25 (PREVIOUSLY PRESENTED): An illumination system comprising:

a secondary light source forming member for forming a plurality of secondary light sources with light from a light source,

wherein an illuminated surface is illuminated with a plurality of light beams from said plurality of secondary light sources, and projection magnifications of a part or all of said plurality of light beams to said illuminated surface are changed, thereby varying an illumination distribution on said illuminated surface, and

wherein said distribution is varied by switching the relationship of the number of overlapping light beams in a central portion of said illuminated surface and the number of overlapping light beams in a peripheral portion of said illuminated surface between different and the same.

26 (CANCELLED):

27 (PREVIOUSLY PRESENTED): An illumination system comprising:

a secondary light source forming member for forming a plurality of secondary

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light sources with light from a light source,

wherein an illuminated surface is illuminated with a plurality of light beams from said plurality of secondary light sources, and projection magnifications of a part or all of said plurality of light beams to said illuminated surface are changed, thereby varying an illumination distribution on said illuminated surface, and

wherein the number of overlapping light beams in a central portion of said illuminated surface is structured to be larger than the number of overlapping light beams in a peripheral portion of said illuminated surface, and projection magnifications of said plurality of light beams to said illuminated surface are changed, thereby varying said distribution in an effective region of said illuminated surface.

28 (ORIGINAL): An illumination system according to claim 25, comprising:
at least one lens array as said secondary light source forming member; and
a light condensing optical element, wherein said distribution is varied by moving said light condensing optical element in a direction of an optical axis.

29 (ORIGINAL): An illumination system according to claim 27, comprising: at least one lens array as said secondary light source forming member; and a light condensing optical element, wherein said distribution is varied by moving said light condensing optical element in a direction of an optical axis.

30 (ORIGINAL): An illumination system according to claim 25, comprising:
at least one lens array as said secondary light source forming member; and
a light condensing optical element, wherein said distribution is varied by moving

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at least a part of said at least one lens array.

31 (ORIGINAL): An illumination system according to claim 30, wherein said distribution is varied by moving at least a part of said at least one lens array in a direction of an optical axis.

32 (ORIGINAL): An illumination system according to claim 30, wherein said distribution is varied by moving at least a part of said at least one lens array in a direction perpendicular to an optical axis.

33 (ORIGINAL): An illumination system according to claim 30, wherein said distribution is varied by rotating at least a part of said at least one lens array.

34 (PREVIOUSLY PRESENTED): An illumination system according to claim 25, comprising:
at least one lens array as said secondary light source forming member; and
a light condensing optical element, wherein said distribution is varied by moving at least a part of said at least one lens array.

35 (ORIGINAL): An illumination system according to claim 34, wherein said distribution is varied by moving at least a part of said at least one lens array in a direction of an optical axis.

36 (ORIGINAL): An illumination system according to claim 34, wherein said distribution is varied by moving at least a part of said at least one lens array in a direction perpendicular to an optical axis.

37 (ORIGINAL): An illumination system according to claim 34, wherein said distribution is varied by rotating at least a part of said at least one lens array.

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38 (CURRENTLY AMENDED): An illumination system comprising:

a secondary light source forming member for forming a plurality of secondary light sources by using light from a light source,

~~at least one lens array as said secondary light source forming member; and~~

~~a light condensing optical element;~~

wherein ~~an illuminated surface is illuminated with~~ a plurality of light beams coming from said plurality of secondary light sources illuminate an illuminated surface, and projection magnifications of a part or all of said plurality of light beams to said illuminated surface are changed, ~~thereby varying~~ to vary an illumination distribution in an effective region of said illuminated surface, and

wherein said distribution is varied by moving and rotating at least a part of said at least one lens array plurality of secondary light sources.

39 (CURRENTLY AMENDED): An illumination system comprising:

a secondary light source forming member for forming a plurality of secondary light sources by using light from a light source,

wherein ~~an illuminated surface is illuminated with~~ a plurality of light beams coming from said plurality of secondary light sources illuminate an illuminated surface, and projection magnifications of a part or all of said plurality of light beams to said illuminated surface are changed, ~~thereby varying~~ to vary an illumination distribution in an effective region of said illuminated surface, and

wherein said distribution is varied by switching the relationship of the number of

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overlapping said plurality of light beams coming from said plurality of secondary light sources
are overlapped in a central portion of the effective region and the number of overlapping said
plurality of light beams coming from said plurality of secondary light sources are overlapped in a
peripheral portion of the effective region between different and the same.

40 (CURRENTLY AMENDED): An illumination system comprising:

a secondary light source forming member for forming a plurality of secondary
light sources by ~~using light from~~ a light source,

~~wherein an illuminated surface is illuminated with a plurality of light beams~~
coming from said plurality of secondary light sources illuminate an illuminated surface, and
~~projection magnifications of a part or all of said plurality of light beams to said illuminated~~
~~surface are changed, thereby varying an illumination distribution in an effective region of said~~
~~illuminated surface, and~~

wherein the number of overlapping said plurality of light beams coming from said
plurality of secondary light sources are overlapped in a central portion of said illuminated surface
is ~~structured to be~~ larger than the number of overlapping said plurality of light beams coming
from said plurality of secondary light sources are overlapped in a peripheral portion of said
illuminated surface, and projection magnifications of a part or all of said plurality of light beams
to said illuminated surface are changed, ~~thereby varying said~~ to vary an illumination distribution
in an effective region of said illuminated surface.

41 (CURRENTLY AMENDED): An illumination system according to claim 38, further
comprising a light condensing optical element, [[:]]

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~~at least one lens array as wherein~~ said secondary light source forming member
includes at least one lens array; and

~~a light condensing optical element,~~ wherein said distribution is varied by moving
said light condensing optical element in a direction of an optical axis.

42 (CURRENTLY AMENDED): An illumination system according to claim 40, ~~further~~
comprising a light condensing optical element, [[:]]

~~at least one lens array as wherein~~ said secondary light source forming member
includes at least one lens array; and

~~a light condensing optical element,~~ wherein said distribution is varied by moving
said light condensing optical element in a direction of an optical axis.

43 (CANCELLED):

44 (PREVIOUSLY PRESENTED): An illumination system according to claim 38, ~~wherein~~ said
distribution is varied by moving at least a part of said at least one lens array in a direction of an
optical axis.

45 (PREVIOUSLY PRESENTED): An illumination system according to claim 38, ~~wherein~~ said
distribution is varied by moving at least a part of said at least one lens array in a direction
perpendicular to an optical axis.

46 (CANCELLED):

47 (ORIGINAL): An illumination system according to claim 39, comprising:

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at least one lens array as said secondary light source forming member; and
a light condensing optical element, wherein said distribution is varied by moving
at least a part of said at least one lens array.

48 (ORIGINAL): An illumination system according to claim 47, wherein said distribution is
varied by moving at least a part of said at least one lens array in a direction of an optical axis.

49 (ORIGINAL): An illumination system according to claim 47, wherein said distribution is
varied by moving at least a part of said at least one lens array in a direction perpendicular to an
optical axis.

50 (ORIGINAL): An illumination system according to claim 47, wherein said distribution is
varied by rotating at least a part of said at least one lens array.

51 (PREVIOUSLY PRESENTED): An image display apparatus comprising:

at least one image forming element; and
an illumination system according to claim 25 for illuminating said at least one
image forming element with light from a light source.

52 (ORIGINAL): An apparatus according to claim 51, further comprising:

a projection optical system for projecting an image formed by said image forming
element on a projection surface, wherein said apparatus further comprises a plurality of image
forming elements and said projection optical system overlappingly projects on said projection
surface images formed by said plurality of image forming elements.

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53 (PREVIOUSLY PRESENTED): An apparatus according to claim 51, wherein said apparatus comprises a plurality of image forming elements at least for red, green, and blue, respectively and said apparatus further comprises a plurality of dichroic mirrors for combining colors from said plurality of image forming elements.

54 (PREVIOUSLY PRESENTED): An apparatus according to claim 51, wherein said apparatus comprises a plurality of image forming elements at least for red, green, and blue, respectively and said apparatus further comprises a plurality of dichroic prisms for combining colors from said plurality of image forming elements.

55 (PREVIOUSLY PRESENTED): An illumination system according to claim 25,
wherein an image recording apparatus for supplying an image signal to said apparatus.

56 (PREVIOUSLY PRESENTED): An illumination system according to claim 25,
wherein a computer for supplying an image signal to said apparatus.

57 (PREVIOUSLY PRESENTED): An apparatus according to claim 51, further comprising a projection optical system for projecting an image formed by said image forming element on a projection surface, wherein said apparatus has a single image forming element and said projection optical system projects the image formed by said single image forming element on the projection surface.

58 (ORIGINAL): An apparatus according to claim 51 further comprising a projection optical system for projecting an image formed by said image forming element on a projection surface,

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wherein said apparatus has a single image forming element and said projection optical system projects the image formed by said single image forming element on the projection surface;

59-63 (CANCELLED):

64 (PREVIOUSLY PRESENTED): An image apparatus comprising:

at least one image forming element; and

an illumination system according to claim 38 for illuminating said at least one image forming element with light from a light source.

65-66 (CANCELLED):

67 (PREVIOUSLY PRESENTED): An image display apparatus comprising:

at least one image forming element; and

an illumination system according to claim 27 for illuminating said at least one image forming element with light from a light source.

68-77 (CANCELLED):

78 (PREVIOUSLY PRESENTED): An image display apparatus according to claim 67, further comprising an image storing apparatus for supplying image signal to said image display apparatus.

79 (PREVIOUSLY PRESENTED): An image display apparatus according to claim 67, further comprising a computer for supplying image signal to said image display apparatus.

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80 (PREVIOUSLY PRESENTED): An image apparatus according to claim 64, further comprising an image storing apparatus for supplying image signal to said image display apparatus.

81 (PREVIOUSLY PRESENTED): An image apparatus according to claim 64, further comprising a computer for supplying image signal to said image display apparatus.

82 (PREVIOUSLY PRESENTED): An image apparatus comprising:
at least one image forming element; and
an illumination system according to claim 39 for illuminating said at least one image forming element with light from a light source.

83 (PREVIOUSLY PRESENTED): An image display apparatus according to claim 82, further comprising an image storing apparatus for supplying image signal to said image display apparatus.

84 (PREVIOUSLY PRESENTED): An image display apparatus according to claim 82, further comprising a computer for supplying image signal to said image display apparatus.

85 (PREVIOUSLY PRESENTED): An image apparatus comprising:
at least one image forming element; and
an illumination system according to claim 40 for illuminating said at least one image forming element with light from a light source.

86 (PREVIOUSLY PRESENTED): An image display apparatus according to claim 85, further

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comprising an image storing apparatus for supplying image signal to said image display apparatus.

87 (PREVIOUSLY PRESENTED): An image display apparatus according to claim 85, further comprising a computer for supplying image signal to said image display apparatus.

88 (PREVIOUSLY PRESENTED): An image display apparatus comprising:

at least one image forming element for forming an image in an effective region;
and

a secondary light source forming member for forming a plurality of secondary light source with light from a light source,

wherein said at least one image forming element is illuminated by using a plurality of light beam from a light source, and projection magnifications of a part or all of said plurality of light beams to said at least one image forming element are changed, whereby, in a case that images formed by said at least one image forming element concentrate at a central part rather than a peripheral part of the effective region, an image display apparatus controls a brightness of the central part to be brighter than that of a peripheral part, or in a case that images formed by said at least one image forming element are dispersed at a central part and a peripheral part, an image display apparatus controls a brightness of the central part to be substantially equal to that of a peripheral part of the effective region.

89 (PREVIOUSLY PRESENTED): An image display apparatus according to claim 88, further comprising an image storing apparatus for supplying image signal to said image display apparatus.

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90 (PREVIOUSLY PRESENTED): An image display apparatus according to claim 88, further comprising a computer for supplying image signal to said image display apparatus.

91-94 (CANCELLED):